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**LOGISTIC TRANSFORMATION AND EDUCATION REFORM**

BY

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USAWC STRATEGY RESEARCH PROJECT

**LOGISTIC TRANSFORMATION AND EDUCATION REFORM**

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## ABSTRACT

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The new security environment has changed the relationship between the levels of war and has placed new demands on the U.S. Army. To meet the new challenges the Army is undergoing a transformation. The Vice Chief of Staff, General John Keane, stated to transform the Army in terms of strategic responsiveness, we not only have to change the dynamics of our material acquisition, but we have to change our logistics. The Army Transformation Campaign Plan established a common framework and translates the Army's Vision from concept to reality. A reality I believe the logistic community is reacting to versus leading the world into the 21st Century. Can there be a reform in military logistics without a reform in logistics' education? The military is living in a world where the cold war mentality has dominated our way of support, virtually endless resources and volume. The majority of the civilian CEOs are living in the Microsoft world where challenging the conventional ways of business are common.

The Army's top logisticians over the past few years have worked to define the Revolution in Military Logistics (RML). The logistic vision is documented in the Army Strategic Logistic Plan (ASLP). The ASLP represents a transformation to the concept of distribution-based logistics. The ASLP consolidates the full spectrum of logistic modernization into a single, executable plan. The plan is based on leveraging the latest technology, commercial practices and efficiencies. The RML is not only central to preparing for the 21st Century, but it is the fulcrum of the Army's effort to balance readiness and modernization.

The Army's logistic education system is ill equipped to develop leaders capable of capitalizing on innovative ideas, technology, and business efficiencies. The military used to be the leaders in the development of the latest technologies and efficiencies. The civilian sector watched and incorporated military ingenuities, but today we are looking to the civilian sector. It is a necessity to adapt an educational program that will enhance our ability to not only recognize business efficiencies, but also develop leaders capable of selling the program for timely incorporation into the Army.

The civilian industry recognizes to move forward they must develop and hire the societies' best intellectuals. There are several organizations that exist solely to develop innovative, motivated, and intellectual leaders capable of taking advantage of emerging technologies and commercial efficiencies. The leading organization devoted to perpetuating the art of logistics is APICS, known as the Educational Society for Resource Management. This paper focuses on the comprehensive education program designed to perpetuate the profession of logistics, APICS.

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## PREFACE

The profession of arms is distinguished by the requirement for continuing education of its members. Ours is a unique profession, which often entails considerable risk to the individual soldiers and perhaps our civilian population as well, especially after the events of September 11, 2001. The military must have the advantages of a broadly based education to prepare them for future challenges. They need to be familiar with the latest scientific and technological advances, and how they apply to the profession of arms. The knowledge is critical to the logistic community. If the Logistian is going to remain a true professional, the logistic community must be the leaders in logistic doctrine and not a reactive force within the profession of arms. The logistic community must pursue a dynamic educational program based on a wide range of subjects throughout their careers. This requires devoting the necessary time and resources to ensure our future leaders are prepared to meet the challenges of the 21st Century.



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## LOGISTIC TRANSFORMATION AND EDUCATION REFORM

The former Chief of Staff of the Army, General Dennis J. Reimer, often stated that there could not be a revolution in military affairs without a Revolution in Military Logistics (RML). As modern warfare increases in technical sophistication, complexity, and speed, the way we fight will change. These changes in how we fight or meet the full spectrum influences how we provide support.<sup>1</sup>

On 12 October 1999, the Secretary of the Army and the Chief of Staff of the Army expressed a vision designed to meet the challenges of the 21<sup>st</sup> Century. The Army Vision calls for a capability to put a brigade combat team anywhere in the world in 96 hours, a division in 120 hours, and 5 divisions in 30 days. The force must be responsive, deployable, agile, versatile, lethal, survivable, and sustainable. For this to occur the Army must change deployment, sustainment methods and equipment.<sup>2</sup> The Vice Chief of Staff, General John Keane, stated to transform the Army in terms of strategic responsiveness, we not only have to change the dynamics of our material acquisition of vehicles, but we have to change our logistics. General Keane noted, when the Army deploys, only 20 percent of the force is combat fighting systems. The other 80 percent is combat support to help it fight.<sup>3</sup> Logistic systems must become strategically responsive, efficient, and smaller. It will take visionary leaders to make it a reality. The Army Transformation Campaign Plan establishes a common framework and translates the Army's Vision from concept to reality.<sup>4</sup> A reality the logistic community is responding to versus leading the world into the 21<sup>st</sup> Century. I believe there truly cannot be a reform in military logistics without a reform in logistic education. The military is living in a world where the cold war mentality has dominated our way of support, virtually endless resources and volume. The majority of civilian CEO's are living in a Microsoft world and are not afraid to challenge the conventional ways of thinking.

The Army's top logisticians over the past few years have worked to define the Revolution in Military Logistics (RML). The vision that has emerged is truly revolutionary and is captured in the Army Strategic Logistic Plan (ASLP). The ASLP is the logistic modernization strategy and implementation process to achieve the RML. The RML represents a transformation to the concept of distribution-based logistics. This approach will be managed through an evolving seamless logistic system that synchronizes all the components into one network. The ALSP consolidates the full spectrum of logistic modernization into a single, executable plan focusing on current information and communication technologies. It includes logistic efficiencies and commercial practices consistent with the Defense Authorization Act. Logistic systems must

capitalize on the best commercial practices to support military requirements. There are many initiatives currently working to streamline and modernize logistics. A systematic approach is necessary to reduce fragmentation and result in a logistic transformation providing real-time logistic responsiveness across the mission spectrum. The RML is not only central to preparing for the 21<sup>st</sup> Century, but is the fulcrum of the Army's effort to balance readiness and modernization. The Defense Science Board pointed out 1998, that the continuing regard of logistics as the secondary tail to war fighting doctrine, training, and armament will have unacceptable consequences in the 21<sup>st</sup> Century, resulting in a decreased ability to achieve national security objectives. HQ TRADOC validated this statement and also cited the critical importance of personnel training. The measure of success for the RML will be evaluated in force readiness and it's capability to support the deployability and sustainability goals established by the Army.<sup>5</sup>

The ASLP groups the initiatives in six tenets, which are expressed as goals. The six goals are listed below and discussed in greater detail in subsequent paragraphs.

- Seamless Logistic system (SLS).
- Distribution-based logistic system (DBLS)
- Agile infrastructure.
- Total Asset Visibility (TAV)
- Rapid projection capability.
- Adequate logistic footprint.

## **SEAMLESS LOGISTIC SYSTEM**

Revolution in Military Logistics relies on precision logistic management. Precision management is based on modern information systems and the networks that connect them. The realities of the emerging global, information-based economy, and fast paced information age warfare, require the seamless logistic system to achieve unprecedented levels of interconnectivity and interoperability. Interconnectivity and interoperability includes more then the Army's tactical and administrative pieces of the information systems. It encompasses joint, combined, and commercial systems. In addition to including command and control systems, it will interface with digital weapon systems to monitor and use the onboard sensors and prognostics. It must reach in lateral and rear directions to interface with the logistics and financial systems of other services and Defense agencies. Finally, it will connect to the global network of electronic commerce. This connection will permit industry partners to track and support Army forces in the field, and allow logisticians to locate suppliers quickly.<sup>6</sup> Seamless

logistics will play a critical role in the transformation to a distribution logistic system and a new way of doing business. The key processes to of the seamless logistic system are:

**Readiness Management:** Involves logisticians tracking and fusing the OPLANS and the prognostic feeds to forecast unit status and determine mission supportability.

**Logistic Intervention:** Centers on providing logistic packages of material, labor, equipment, and skills to improve unit readiness. The goal is efficient use and reuse of both supplies and platforms in the distribution based logistics network.

**Distribution Management:** Will task the distribution system to move assets to the point of need.

**Asset Management:** Matches available assets with the needs, identify total shortfalls, and then interfaces with Government and industry suppliers to obtain additional assets.<sup>7</sup>

## DISTRIBUTION-BASED LOGISTICS

Logistics management involves much more than the increased use of transportation.

Velocity offsets mass as echelons of inventory are replaced by the managed flow of materiel.

The key to success is the timely and accurate information on the inventory that is in transit. The distribution pipeline will become the RML warehouse. Along the entire supply chain, there will be small temporary inventories stocked for the mission, not by historical demands. Faster and more plentiful lift will allow fewer and smaller transit holding areas. Materiel managers will rely on prognostic data, real-time situational awareness of current and planned operations from the Combat Command and Control System (GCCS) and Global Combat Support System (GCSS).<sup>8</sup>

## AGILE INFRASTRUCTURE

The RML will require agility in a number of dimensions. To cope with the demands of the 21st Century, Army logistics will have to become more agile structurally, physically, and mentally. Tasks forces and staffs need the ability to scale up and down in size, as well as in technical expertise. Personnel, teams, and units from all components need to be capable of deploying and moving without degrading the support of deployed forces. A flexible acquisition system is required to support rapid access to the numerous commercial vendors.<sup>9</sup>

## TOTAL ASSET VISIBILITY

Total asset visibility (TAV) and availability is a cornerstone to distribution-based logistics.

TAV must be fielded completely and enhanced to support the dynamic logistic system for locating assets with real-time precision. Controls need to be added to TAV and RML distribution platforms and infrastructures components and put under the controls of the Seamless Logistic System evolving out of the Global Combat Support System - Army (GCSS-Army). Additionally, TAV must be able to support management decisions to redirect shipments and transportation

assets, to redistribute unclaimed assets, and track unit locations. Logisticians must have positive control and visibility of assets in the logistic pipeline.<sup>10</sup>

## **RAPID FORCE PROJECTION CAPABILITY**

RML rapid force projection has three key components: strategic force projection of initial force; follow-on forces; and, operational and tactical intra-theater mobility. All three are essential to meeting national security objectives. Currently the fleet of Large, Medium-Speed, roll-on, roll-off ships (LMSR) are being built and pre-positioned with heavy combat unit sets. Additionally, the Army is sponsoring research into more advanced sealift capabilities. Acquisition of commercial shallow-draft, high-speed ship technology, massive hydrofoil ships, and Ultra-large aircrafts are options under review.<sup>11</sup>

## **ADEQUATE LOGISTIC FOOTPRINT**

The last tenet reminds us that we have to be able to do more with less. Efficiency and effectiveness are no longer options, but utter necessity. Army logistics has risen to the challenge and developed a concept and plan that will provide unprecedented efficiency and economy while enhancing responsiveness. Maintaining an adequate logistic footprint will still require a careful balancing act, as there are always potential tradeoffs and sacrifices. Logisticians must remain the professionals and inform the operational planners the minimum sustainment force required to support the forces.<sup>12</sup>

Initiatives like GCSS-Army will turn the seamless logistic system into reality. GCSS-Army will transform stovepipe standard Army management information systems (STAMIS) into a single logistics automated system and interface with existing battlefield automation systems. However, GCSS-Army is still in the concept phase due to false starts and a contractor issue. The individual branches complicate this situation (Ordnance, Quartermaster, and Transportation). The new systems under development by the branches perpetuate the dilemma of stovepipe systems, Global Transportation Network and Single Stock Fund, and unfortunately do not share a common information technology (IT) platform capable of easily integrating the various modules or systems. The challenges are great and education is a key element in getting the right technological enablers in the field. Logistic enablers are paramount in building an agile infrastructure and RML. Fielding critical logistic enablers, such as GCSS-Army, Transportation Automated Information for Movements System-II, improved diagnostics, TMDE, palletized loading system, and materiel handling equipment, are some of the top priorities; getting the financial support will remain one of the toughest challenges. The RML cuts across

all CSS disciplines and will require competent and innovative leaders, if there is to be a Revolution in Military Affairs.<sup>13</sup>

## **TRANSFORMATION**

Today as we begin the initial transformation to the Interim Brigade Combat Team (IBCT) the Combat Service Support (CSS) Community is rapidly reacting to the changes in force structure. The CSS community is relying heavily on critical logistic enablers to offset the reduction in personnel. The IBCT is excellent example of how the support personnel have been removed from the maneuver units and reduced in the support battalion. The support battalion was designed to perform only approximately 30 percent of the required services within the IBCT. The CSS community is relying on contractors and logistic enablers that do not currently exist. The Army requires innovative leaders capable of recognizing evolving technologies and commercial efficiencies. Capable leaders are essential to the timely incorporation of commercial efficiencies and orchestrating the logistic revolution versus reacting.

The Logistic Community, as a whole, can no longer afford to be a reactive force. Our environment is changing at an unprecedented pace and we have to develop leaders capable of capitalizing on innovative ideas, technology, and business efficiencies. The military used to be the leaders in the development of the latest technologies, innovations, and efficiencies. The civilian sector watched and incorporated military ingenuities, but today we are looking to the civilian sector for the latest business practices. Today's structure changes have forced the logistic community to react and adapt technology and innovative concepts or practices from the civilian sector. We may never be the leaders of innovation, technology, and efficiencies again. It's a necessity to adapt an educational program that will enhance our ability to not only recognize business efficiencies, but their timely incorporation into the military. Today's logistic transformation is a revolution in military logistics, but in specific cases, we are adopting business practices a decade old. One example is total asset visibility. Total asset visibility is a reality in commercial industry and has been for at least ten years.

## **COMPLACENCY**

America has clearly moved into a position of unrivaled military advantage relative to our potential foe's and allies. Technology has provided a significant advantage in numerous areas. However, we need to maintain our focus on making progress and not become complacent as we traverse transformation. History provides many lessons where overconfidence is a perilous trap.<sup>14</sup> Some may take comfort in the fact that U.S. Forces displayed overwhelming superiority during the nation's most recent combat experiences,

Operation Allied Force and Desert Storm. The United States used its growing technological lead in key areas to completely dominate the battle space. This along with highly effective strategy and tremendous flow of logistical support was directly responsible for our ability to end the conflicts quickly. There is no guarantee that we will have the logistic resources to be able to replicate our performances in Allied Force and Desert Storm unless we continue to pursue efficiencies and an aggressive educational plan.<sup>15</sup> For example in December 1996, Saudi Arabia was still littered with hundreds of containers filled with frustrated cargo.

The profession of arms is distinguished by the requirement for continuing education of its members. Ours is a unique profession, which often entails considerable risk to the individual soldiers and perhaps our civilian population as well, especially after the events of September 11, 2001. The military must have the advantages of a broadly based education to prepare them for future challenges. They need to be familiar with the latest scientific and technological advances, and how they apply to the profession of arms. The knowledge is critical to the logistic community. If the Logistician is going to remain a true professional, the logistic community must be the leaders in logistic doctrine and not a reactive force within the profession of arms. The logistic community must pursue a dynamic educational program based on a wide range of subjects throughout their careers.<sup>16</sup> Education provides the intellectual capital necessary to meet the challenges of the 21<sup>st</sup> Century. Industry in the United States made this determination years ago. Successful businesses embrace the concept that organizational learning is necessary in addition to continuing education. Organizational learning is a set of processes and structures to help people create new knowledge, share understanding, and continuously improve themselves and their organization.<sup>17</sup> If we are going to remain a profession within a profession, we need to embrace the industries' education model (as I will discuss in greater detail). We can no longer rely on our current institutions. The instructors are products of the same linear education process. It's a simple case of the blind leading the blind. We need to require and encourage our military instructors and individuals to pursue civilian educational opportunities and not potentially penalize them. This requires devoting the necessary time and resources to ensure our future leaders are prepared to meet the challenges of the 21<sup>st</sup> Century.

## **INDUSTRY STANDARDS-APICS**

Civilian industry recognizes to move forward they must develop and hire the societies' best intellectuals. There are several organizations that exist solely to develop innovative, motivated, and intellectual logistic leaders capable of taking advantage of emerging

technologies and industry efficiencies. Two of the leading organizations are: APICS – The Educational Society for Resource Management and SOLE- The International Society of Logistics Education.

Both organizations are recognized internationally for perpetuating the art of logistics. The pursuit of either program would greatly enhance professional development and our ability to develop visionary leaders capable of thinking outside of the box. Individuals will further benefit from obtaining a coveted logistic certification recognized internationally. My intent is to outline the program sponsored by APICS. APICS was founded in 1957, is recognized globally as:

- The source of knowledge and expertise for manufacturing and service industry in such areas as materials management, information services, purchasing, and quality.
- The leading provider of high quality, cutting edge educational programs that advance organizational successes in an evolving, competitive market.
- Developer of two highly recognized certification programs, Certified in Production and Inventory Management (CPIM) and Certified in Integrated Resource Management (CRIM).
- A source of business management publications, solutions, local chapters, workshops, symposia, and the annual APICS International Conference.

The mission of APICS is to continue to set the standard as the recognized global leader and premier provider of resource management education and information. In support of APICS' mission more than 100 educational courses, seminars, symposia, and workshops are offered year round. The topics range from supply chain management, e-commerce, agile manufacturing, constraint management, Just-in-time and enterprise resource planning.<sup>18</sup>

Continuing education is the key to professional development in today's workforce. APICS provides a comprehensive education program. The program includes on-line courses, educational opportunities at over 250 local chapters and certification programs. The comprehensive cycle of education is designed to meet the needs of logistic professionals at all levels. The comprehensive cycle consist of six programs. The format, function, and preparation methods are different for each program.<sup>19</sup>

- Fundamentals of Materials and Operation Management
- Applied Manufacturing Education Series
- Advanced Supply Chain Management
- Workshops

- Certified in Integrated Resource Management (CIRM)
- Certified in Production and Inventory Management (CPIM)

## FUNDAMENTALS OF MATERIALS AND OPERATION MANAGEMENT

The Fundamentals of Material and Operation Management program is only taught at local chapters and is designed for individuals new to materials and management operations.

Participants gain practical experience from seasoned professionals and the essential skills necessary to become more effective and productive in their jobs. The program consists of four basic modules:

- **Fundamentals of Inventory Control** provides the basic vocabulary and skills necessary for applying the principles of inventory management.
- **Fundamentals of Planning** teaches the basic principles of effective planning in commercial industry.
- **Manufacturing Control** discusses priorities and capacity as associated with material requirement planning.
- **Operations Management** demonstrates and describes the relationship between goods and services and the operation of the system.

The four modules of the program teach the basic concepts, techniques, and terminology.

The program provides a solid foundation for individuals pursuing an APICS certification and civilian technology and operations.<sup>20</sup>

## APPLIED MANUFACTURING EDUCATION SERIES (AMES)

AMES is a comprehensive in-house training program designed to provide a solid foundation in manufacturing and planning to professional within an organization. AMES has a proven record of helping organizations increase productivity and reduce cost at all levels. It has a comprehensive teaching system that provides a solid foundation in basic manufacturing principles. A program ideally suited for integration into the Army's career courses and specialty courses. Additionally, the program focuses on practical solutions to actual manufacturing problems. The AMES consists of six separate modules or courses:

- **Master Planning:** Describes basic industry concepts and the linkage between planning and maximizing industrial production.
- **Material Requirements Planning:** Focuses on the concept of material requirement plans (MRP). The MRP begins with developing and using the bill of

material or product through obtaining and translating scheduling data to selecting the techniques for implementing a material requirements planning system.

- **Capacity Requirements Planning Control:** Teaches the entire process from determining, calculating the capacity, gathering and interpreting applicable data, completing the process, and analyzing and resolving problems.
- **Production Activity Control:** Discusses techniques to maximize productivity of goods through the manufacturing cycle. In addition to production control, manufacturing process, and productivity, actual case studies are used to increase understanding.
- **Inventory Management:** Teaches the principles and techniques for planning and controlling inventory at all stages of production and distribution. Additionally, it teaches how to establish an inventory management plan, controlling the inventory, and performance evaluation.
- **Just-In-Time:** Focuses on waste reduction and how to develop productive relationships with customers and suppliers. Just-In-Time challenges students to learn how to improve quality and reduce manufacturing lead-time and inventory.

Applied Manufacturing Education Series is focused primarily on operational management at the unit level. This course would greatly serve to broaden the knowledge of young officers already familiar with military procedures. The process of continuing education and familiarization with civilian industry would lay the foundation of an innovative officer corps.<sup>21</sup>

#### ADVANCED SUPPLY CHAIN MANAGEMENT (ASCM)

ASCM is the first program offered on-line. It is designed for the busy professional who already has a basic knowledge of supply chain theory. The program provides the executive tips and techniques to leverage technology, incorporate strategies, integrate and synchronize all facets of logistics. The ASCM consists of five modules:

- **Supply Chain Creates Net Value:** This module provides an insight into the organizational and customer benefits and a basic structure for building a company's supply chain infrastructure.
- **Build a Competitive Infrastructure:** This module is heavily weighted toward current and future technology. It teaches you all the tips and techniques to leverage technology and communicate with other networks within the supply chain, and incorporate strategies to optimize competitiveness.

- **Leverage Worldwide Logistics:** This module is focused on the intricacies of linking all the networks or entities in your global supply chain. It stresses the importance of effective procurement, production, distribution, communications, and customer service.
- **Synchronize Supply and Demand:** This module uses case studies to demonstrate common supply and demand problems and synchronization inhibitors. Additionally, it teaches how collaboration is a key synchronization enabler.
- **Measure Performance Globally:** This module builds on the previous modules to determine global performance and how to initiate the best practice procedures to optimize efficiency.

The Advance Supply Chain Management course could greatly serve our depot level commanders and managers who already have a sound logistic foundation, but would benefit from understanding and applying commercial efficiencies to depot operations. This course offered online or CD-ROM would provide our young accountable officers and company commanders' additional insight into commercial supply chain management and theory.<sup>22</sup>

## WORKSHOPS

The APICS workshops consist of over 20 educational programs and are based on the adult learning model. APICS qualified instructors' lead the classes through interaction discussions, case studies, and strategic problem solving exercises. In addition to the AMES course, previously discussed and CIRM and CPIM discussed later, the workshops offer specialized courses and Industry specific courses/Special Interest Groups (SIGs). Examples of the specialized courses are:

- **Lean and Agile Manufacturing:** Teaches members to identify wastes and non-value-added activities within the manufacturing process. The course uses a working factory model to demonstrate actual working techniques and procedures. The students are required to reengineer the factory from a traditional material requirements plan schedule to a lean production model using visual factory techniques. The project integrates one-piece workflow, Just-in-Time delivery, integrated supply chain logistics, and performance measurements and controls.
- **Purchasing and Materials Management:** This course is designed specifically for people new to production management, inventory control, and other aspects of supply chain management. In interactive workshop, students will actually analyze

the systems of their organization. Through simulations the students will learn how to reduce wastes, redundancy, bureaucracy, and enhance value-added procedures to streamline operations.

- **Principle of Forecasting: How to Improve Its Accuracy:** This class specifically addresses the dilemma associated with material lead times increasing and the decreasing of customer requirement times. The issue involves how suppliers can adapt to the changing environment by using innovative and creative approaches. A dilemma we face in the military as we continue to reduce inventories and a rely on prime vendors. Since demands drive this process, the more accurate the requirements or sales forecast is, the more capable the manufacturer will be able to support the changing demand. Therefore the course teaches techniques and methods to increase innovation and creativity. Enhance communications and greater flexibility in reacting to customer demands is two of the primary objectives.
- **Vendor- Managed Inventory:** This course focuses on the trend vendor-managed inventories. Companies are reducing their inventories and electing the option of having second party companies maintain their inventories. This course teaches the importance of purchasing agents, operations, and inventory control managers communicating with the customer regarding inventory management issues. Stocking levels and replenishment formulas must be determined program of supplier assisted inventory management to be maintained. Specifically, the course addresses inventory, seasonal demands, and inventory turn over, return on investment, cycle validation, and cost accounting. This course specifically would be good for logistic personnel involved in inventory control, production, operations management or others faced with relying on secondary sources of supplies.
- **Industry Specific Courses/Special Interest Groups (SIGs):** SIGs conducts educational workshops and symposiums oriented to specific industries. Each workshop is specifically tailored to a particular element of manufacturing and resource management. As a result, the types and scope of the various workshops vary tremendously. A couple example are listed below:
  - **Constraints Management Overview:** This workshop introduces participants to the basics of constraint management. Specifically addressing the business system, transformation processes, and the goals of business system.

- **Production Management:** The workshop introduces participants to the concept of constraints management. The procedures involved in production are described in detail and the latest scheduling methodologies are used to plan and control the procedures to increase efficiency and production.
- **Strategy Alignment Using Constraint Management:** Participants learn the latest techniques to develop a strategy that resolves the difficulties in developing integrated supply chain management.

The scopes of the workshops vary greatly, but can be tailored to effectively meet the needs of the audience. The workshops are lead by certified APICS instructors and are taught throughout the world. The workshops serve to provide industry specific topics oriented to particular segments of manufacturing and resource management.<sup>23</sup>

#### CERTIFIED IN INTEGRATED RESOURCE MANAGEMENT (CIRM)

The success of any organization in the 21<sup>st</sup> Century increasingly depends on its ability to adapt to rapidly changing conditions and taking swift action to capitalize on the opportunities. The CIRM is a thorough program designed to develop managerial and leadership skills. CIRM integrates your understanding of organizational resources – information technology, materials, human resources, facilities, production, and capital. With CIRM logisticians develop their fullest potential to solve a wide range of business problems potentially spurring future innovations.

The CIRM program consists of five modules:

- **Enterprise Concepts and Fundamentals:** Provides a greater understanding of the value-driven enterprise, its integrated organizational functions, and the four basic support areas of quality, human resources, finance and accounting, and information systems.
- **Identifying and Creating Demand:** Teaches the strategies that identify, define, and quantify customer needs, and translates them into requirements for products and services.
- **Designing Products and Processes:** Teaches how to convert a market need or innovation into a service or product that meets the expectations of the customer.
- **Delivering Products and Services:** Examines the approaches, systems and strategies to make the transition from concept and product and between the customer and delivery.

- **Integrating Enterprise Management:** Explores business strategies, techniques in assessing strategic decisions, management practices, and the effects of new technologies to gain a greater understanding of the team perspective.

The CIRM certification allows managers to improve their decision-making abilities and gain a clearer understanding of horizontal management and cross-function operations.<sup>24</sup>

#### CERTIFIED IN PRODUCTION AND INVENTORY MANAGEMENT (CPIM)

CPIM provides a basis for logisticians and organizations to evaluate their knowledge of the evolving field of production and inventory management. CPIM teaches the basic concepts of managing the flow of materials in the supply chain. It further explores the processes used to develop operations, forecasting requirements, scheduling, and the implications of emerging technologies. The program consists of the following five modules:

- **Basics of Supply Chain Management:** Examines the complete flow and distribution of materials in the supply chain.
- **Master Planning of Resources:** Examines the processes used to develop sales and operations plans, and learn to identify and assess internal demands and forecasting.
- **Detailed Scheduling and Planning:** Teaches the various techniques used for material and capacity scheduling.
- **Execution and Control of Operations:** The primary focus of this module is prioritizing and sequencing work, implementing controls, reporting results, and providing performance feedback.
- **Strategic Management of Resources:** Explores new technology and emerging processes to existing manufacturing strategy and supply chain functions.

The CPIM is designed ultimately for the floor manager. It provides a comprehensive look at concepts and integration of systems across the operations spectrum<sup>25</sup>

#### CONCLUSION

The security environment we face today continues to evolve. To meet the future challenges the Army is undergoing transformation. The Army requires changes in doctrine, organizations, business practices, training, and education, and a reliance on technology. It will take visionary leaders capable of thinking “outside the box” to transform the Army. The Achilles heel of Army transformation is not operational speed, but logistics. The logistic community is being forced to change how they support. The changes in the logistic community are commonly

referred to as a revolution in military logistics. A revolution based on leveraging civilian efficiencies and technology. It will take more then leaders capable of thinking “outside the box” it will require innovative leaders to revolutionize the logistic system. However, the challenges are many. The Army’s logistic educational system, based on the Cold War paradigm, is ill equipped to produce leaders capable of capitalizing on innovative ideas, technology, and business efficiencies. Today’s structure changes have forced the logistic community to react and adapt technology and innovative concepts or business practices from the civilian sector. It’s a necessity to adopt an educational system that will ensure future leaders are not only grounded in Army doctrine, but also familiar with current commercial practices, efficiencies, and technology.

The logistic results and efficiencies achieved by civilian industry did not occur overnight, but were achieved over years or decades. Civilian industry had to transform their support structure to remain competitive or risk going out of business. They reengineered their processes, applied innovative technological solutions, subcontracted where it provided better performance or lower cost, and overcame cultural barriers to change. Industry continued their pursuit of excellence by adopting the latest global business practices and ideals. To ensure success, the latest business practices are incorporated into informal and formal education programs. The RML is similar to the process adopted by civilian industry; however, the Army is not in the position to quickly identify and incorporate the latest commercial efficiencies and practices. The Army doesn’t have decades to transform the Army’s logistic system. It is imperative for the Army to quickly adopt the pertinent and applicable commercial practices to facilitate transformation and revise our education system to ensure successful logistics and logisticians of the future.

As we undergo this revolution, the individual branches continue to develop stovepipe systems increasing the difficulties of developing a seamless logistic automation system. Building stovepipe systems are counter productive and simply don’t pass the common sense test. It is a necessity to adapt a system capable of providing a common information technology (IT) platform capable of integrating the supply chain management modules, i.e. manufacturing, inventory, distribution, purchasing, and finances. Civilian industry continues to create supply chain management procedures across the Internet with a common IT platform and integrated management modules. The various modules vary from planning to execution software. These modules are sometimes referred to as Enterprise Programs. Although Enterprise Programs draw criticism, they offer more then the Army’s current attempt to create a seamless logistic system. CGSS-Army is the Army’s attempt to transform the

segmented or stovepipe standard Army management information system into a single logistic automation system capable of interfacing not only with retail, wholesale, and joint systems, but also with battlefield automation systems. To date, CGSS-Army has been a failure and promises to be a long process. The Enterprise Programs or modules are Resource Planning, Supply Management, Requisition Management, Manufacturing, Warehouse Management, and Distribution or Transportation Management. The combination of these modules provides an IT platform that allows shared data between the various agencies or nodes. The sharing of data is significant in providing inventory and requisition visibility across the supply chain. The biggest vendors (PeopleSoft, Oracle, and SAP) continue to lead in the automation by integrating business practices and management information systems to achieve efficiencies and competitive advantages.

We need to continue to develop and foster innovative leaders in our services. Regardless of budgetary and other constraints, our service and joint education programs must remain top priorities. Education must be thought of not as a deviation from a soldier's duty, but a central and continuing focus.<sup>26</sup> APICS is a comprehensive education program based on innovative ideas, emerging technologies, and creates leaders capable of experimenting with pioneering concepts, and leveraging the logistic efficiencies that enable the logistic community to evolve to meet the challenges of the 21<sup>st</sup> Century. The military, with limited resources could scarcely replicate a program as comprehensive as APICS, nor should they attempt to do so. The program is readily available and there are chapters located throughout the country and world. This program or a similar program should be a requirement for logistic officers.

#### **RECOMMENDATION:**

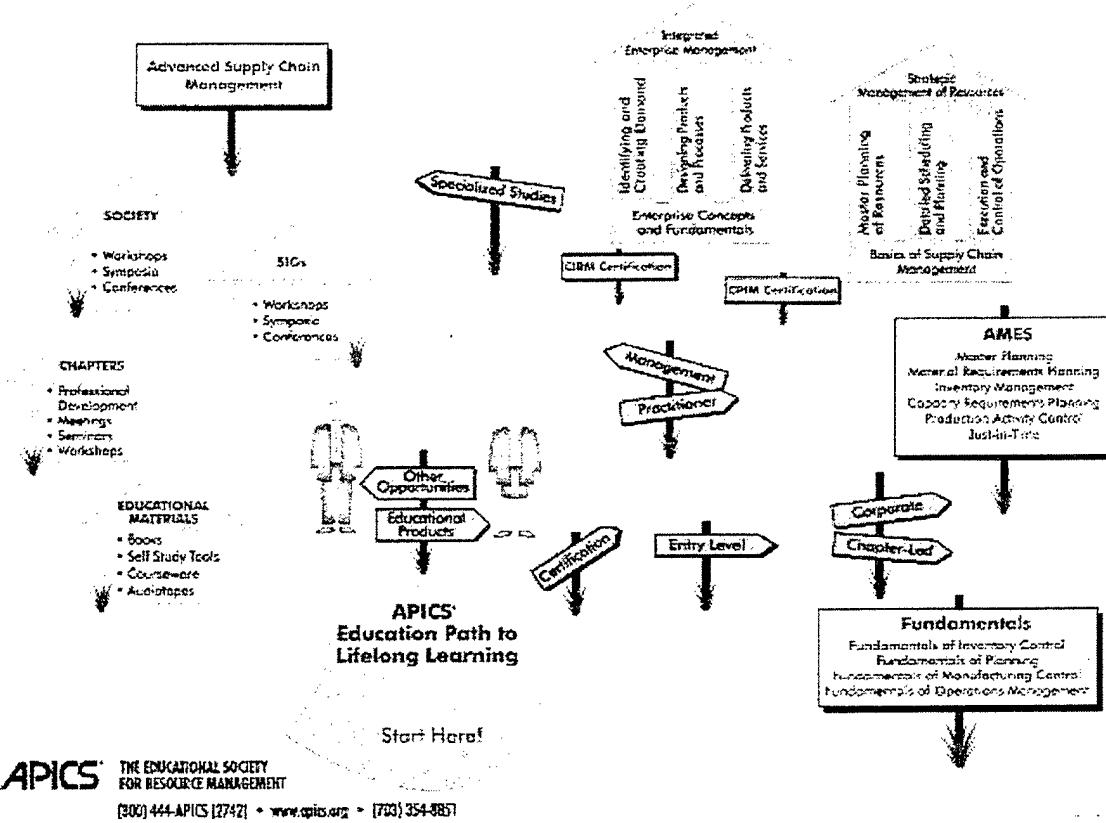
Civilian industry recognizes to remain competitive in today's economy effective and efficient supply chain management practices are essential. Effective and efficient supply chain management provides corporations the ability to track assets globally and create a more responsive distribution based system. The Army and Department of Defense need to identify and quickly adopt proven commercial automation procedures. As it currently stands formal logistic education, for all intents and purposes, ends after the Captains Career Course.

I propose the senior officials that are presently leading the education, transformation, and logistical sides of the military uniformly decide the future of this nation and educate the leaders including themselves (since that is a key factor in overcoming the blind leading the blind theory). Quite possibly there will be a domino effect as other key leaders see the benefits of having better educated personnel and more efficient ways to handle current and future needs of the

military as they present themselves. In theory the military should realize what the rest of the world already knows: "In order to make money you have to spend money." We cannot become complacent and allow a legitimate enemy to materialize or allow the world to surpass us technologically. To finalize the equation we need to understand that a true revolution in military logistics or the military in general cannot take place until a revolutionary thought process becomes an undeniable reality and our policies and procedures reflect the changes in our educational endeavors. In order to have a nation at its best we must have a national defense at its best, and this will not happen without transformations in the way we think, educate and work. To preclude the possibility of another September 11, 2001 from happening should be a strategic leaders ultimate goal, with education as a key component this can be a genuine reality.

APICS is a comprehensive program and a means to continue the professional development of their officer corps. The Army Logistic Corps, as well as the Army, could greatly benefit from this program. The Combined Arms Support Command currently endorses a similar program, but we need more than endorsements if we are going to produce innovative officers. The APICS program encompasses the entire education spectrum and meets the specific needs of the industry. APICS offers a variety of learning opportunities to help enhance professional skills and development. The education pathway (fig 1) demonstrates the appropriate levels of learning ...whether you want to gain entry-level education, be certified as a practitioner, or pursue additional certification/education as a manager, APICS provides a variety of training options. The entry-level courses are designed to teach the basic APICS body of knowledge. These classes stress the fundamentals and provide the foundation for the CPIM program. There are two paths for entry-level education the Fundamentals courses offered by local chapters or

# Explore your APICS learning opportunities!



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As a practitioner, you may want to pursue certification through the CPIM (Certified in Production and Inventory Management) program. The CPIM designation reflects your commitment to an internationally recognized standard of excellence and is attained by passing these five exams:

- Basics of Supply Chain Management
- Master Planning of Resources
- Detailed Scheduling and Planning
- Execution and Control of Operations
- Strategic Management of Resources



The CIRM (Certified in Integrated Resource Management) certification is for managers who seek to improve their decision-making abilities and gain a clearer understanding of horizontal management and cross-functional operations within an organization. The exams include:

- Enterprise Concepts and Fundamentals
- Identifying and Creating Demand
- Designing Products and Processes
- Delivering Products and Services
- Integrated Enterprise Management

FIGURE 1

the Applied Manufacturing Education Series (AMES) courses that are designed for in-house training within a corporation. The entry levels courses would provide Captains and young logisticians an initial indoctrination at the career course or specialty courses respectively. The practitioner course or (Certified in Production and Inventory Management), incorporated into the Command and General Staff College and ALMC can afford Majors and career logisticians the

opportunity to increase their technical knowledge in production, distribution, inventory management, and other related topics previously mentioned. The final sage, The CIRM (Certified in Integrated Resource Management) could be incorporated into the Senior Service Colleges to provide our senior leaders the opportunity to enhance their understanding of organizational resources, information technology, materials, human resources, facilities and similar topics. Additionally, the logistic community should sponsor additional CPIM opportunities for military and civilian personnel. The goal should be to develop a military/civilian logistic community knowledgeable in both military and commercial logistic operations.

The APICS program needs to be integrated into the Army's logistic education system. The program offers tremendous educational value and ensures an innovative logistic corps capable of leading the Army into the next century.

WORD COUNT = 6032

## ENDNOTES

<sup>1</sup> O'Konski, Mark J. "Revolution in Military Logistics: An Overview." Army Logistian. (January-February 1999): 1-7. (ProQuest)

<sup>2</sup> Army Strategic Logistic Plan (ASLP), Enabling Strategic Responsiveness Through A Revolution in Military Logistics (11 May 2000): 1-4

<sup>3</sup> Keane, John. "Keane Outlines Need For Army Logistics Transformation." Defense Daily (14 December 2000): 1-2. (ProQuest)

<sup>4</sup> "United States Army Transformation Campaign Plan." U.S. Army War College Selected Readings (31 July-21 August 2001): 148-150.

<sup>5</sup> ASLP, Section 1. 1-7

<sup>6</sup> Ibid. 8-10

<sup>7</sup> Ibid. 9-11

<sup>8</sup> Ibid. 9-10

<sup>9</sup> Ibid. 10-11

<sup>10</sup> Ibid. 12pp

<sup>11</sup> Ibid. 12-13

<sup>12</sup> Ibid. 13-14

<sup>13</sup> Wilson, Johnnie E. "Our Revolution in Military Logistics—Supporting the 21<sup>st</sup> Century Soldiers." Army Logistian (January-February 1999): 1-2. (ProQuest)

<sup>14</sup> Shelton, Henry H. "Professional Education: The Key to Transformation." Parameters 3 (Autumn 2001): 6.

<sup>15</sup> Ibid. 4-5.

<sup>16</sup> Ibid. 4-5.

<sup>17</sup> McCausland, Jeffery D. and Martin, Gregg F. "Transforming Strategic Leader Education for the 21<sup>st</sup> Century Army." Parameters (Autumn 2001): 27-28.

<sup>18</sup> APICS – The Educational Society for Resource Management. Available from <http://www.apics.org>; Internet; accessed 8 March 2001 and 30 January 2002.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.

<sup>25</sup>Ibid.

<sup>26</sup> Shelton, 15.

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